

ABSTRACT OF THE DISCLOSURE

A RAKE receiver circuit generates combining weights based on channel estimates and combining statistics that comprise channel coefficient statistics, noise statistics, and channel estimation error statistics. Together, these statistics incorporate the relationships in noise and channel estimation across two or more RAKE fingers, and thus improve combining weight generation. Exemplary determination of statistics comprises channel coefficient cross-correlations, noise cross-correlations, and channel estimation error cross-correlations. Determination of the statistics can be varied based on, for example, the assumption of default or nominal signal models. Further, statistics determination can be configured for different receive and transmit diversity scenarios, wherein combining statistics can be determined on a per diversity signal basis, or jointly for two or more diversity signals, or in a mixed separate/joint method wherein one or more statistics are determined on a per signal basis and one or more statistics are determined across the signals.